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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/523,086	02/02/2005	Norbert Herfert	29827/40801	8509

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EXAMINER	
BERNSHTEYN, MICHAEL	
ART UNIT	**PAPER NUMBER**
1713	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/19/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/523,086	HERFERT ET AL.	
	Examiner	Art Unit	
	Michael Bernshteyn	1713	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12/18/2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-27 and 31* is/are pending in the application.

4a) Of the above claim(s) *20-27* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-19 and 31* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☒ Claim(s) *1-27 and 31* are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This Office Action follows a response filed on December 18, 2006. No claims have been amended, cancelled or added.

2. Claims 1-19 and 31 are pending.

Claim Rejections - 35 USC § 102

3. The text of this section of Title 35 U.S.C. not included in this action can be found in a prior Office Action.

Claim Rejections - 35 USC § 103

4. The text of this section of Title 35 U.S.C. not included in this action can be found in a prior Office Action.

5. Claims 1, 2, 7-10 and 16 are rejected under 35 U.S.C. 102(b) as being anticipated by Le-Khac et al. (WO 96/30442), for rationale recited in paragraph 5 of Office Action dated on September 13, 2006.

6. Claim 1-5, 7-17 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable as obvious over Sun et al. (U.S. Patent 6,124,391) in view of Le-Khac et al. (WO 96/30442), for rationale recited in paragraph 7 of Office Action dated on September 13, 2006.

7. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable as obvious over Sun et al. and Le-Khac as applied to claims 1-5, 7-17 and 31 above, for rationale recited in paragraph 8 of Office Action dated on September 13, 2006.

8. Claim 18 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable as obvious over Sun et al. and Le-Khac et al. as applied to claims 1-5, 7-17 and 31 above and further in view of Beerse et al. (US 2002/0006886), for rationale recited in paragraph 9 of Office Action dated on September 13, 2006.

Response to Arguments

9. Applicants traverse the rejection of claims 1, 2, 7-10 and 16 under 35 U.S.C. 102(b) as being anticipated by Le-Khac et al. (WO 96/30442). Applicant's arguments filed December 18, 2006 have been fully considered but they are not persuasive.

10. Applicants contend that the present claims recite *surface-crosslinked* superabsorbent particles containing 12% to 35%, by weight, of clay *in the vicinity of the surfaces* of the superabsorbent particles. These feature are clearly and specifically set forth in claim 1 subparagraphs (ii), (iii)(d), and (iii)(e). As such, the claimed superabsorbent particles have a greater degree of crosslinking (which is at the surfaces of the particles as a result of surface crosslinking in addition to internal crosslinking) and the clay is positioned at the vicinity of the surfaces of the particles, i.e., are not distributed throughout the volume of a particle. As recited in claim 1, in the present invention, the clay is added to dry SAP particles (claim 1, subparagraphs (iii)(c) and (iii)(d). Therefore, the clay is present in the vicinity of the particle surface *only*. The benefit of the present invention is that clay *on the surface* of superabsorbent particles

enhances the fluid permeability of the particles and reduces the amount of fine-sized SAP particles (page 7, 3rd and 4th paragraphs).

Applicants contend that WO '442 discloses Isobam and cycloalkylene glycols as suitable copolymers and crosslinkers, respectively (page 7, line 21, to page 8, line 11), and also discloses the *need of an internal* crosslinking reaction (page 8, lines 12 to 14). The compounds, including the clay, must be *homogenously* mixed before crosslinking. Therefore, the clay in WO '442 is not present solely at the vicinity of the surfaces of the particles, but is distributed throughout the particle. Additionally, WO '442 fails to teach or suggest any surface crosslinking. Accordingly, WO '442 merely discloses uniformly crosslinked particles only (page 8, 4th paragraph).

11. It is noted that claim 1 is a "product-by –process" claim. Le-Khac discloses a water-absorbent polymeric composition containing water-insoluble particles of material, which is substantially unreactive with the polymeric composition. The water-insoluble particles are preferably particles of TiO_2, clay or starch (abstract).

Le-Khac discloses that particular suitable copolymers for use in the production of the water-absorbing composition will contain from about 25 to about 75 percent recurring units of at least α,β-unsaturated monomer and from about 75 to about 25 percent recurring units of at least one copolymerizable monomer. Suitable α,β–unsaturated monomers are those bearing at least one pendant carboxylic acid unit or derivative of carboxylic acid unit. Derivatives of carboxylic acid units include carboxylic acid salt groups, carboxylic acid amide groups, carboxylic acid imide groups, carboxylic acid anhydride groups and carboxylic acid ester groups (page 5, lines 5-16). The

copolymer is then preferably cross-linked either internally or using an external cross-linking agent (page 8, lines 1-2).

Le-Khac discloses that **clay** or starch may be added in an amount of up to 25 wt.% (page 13, lines 13 and page 16, claims 12 and 13) and exemplifies **bentonite** (Example 4, Table 4, page 13, line 18 through page 14, line8).

Regarding the superabsorbent polymer limitations, in view of substantially identical superabsorbent polymer, surface crosslinking agent, a clay, and a process producing such polymer being used by both Le-Khac and the applicant, it is the examiner position to believe that the product, i.e. water-absorbent polymeric composition of Le-Khac is substantially the same as the superabsorbent polymer recited in claim 1, even though obtained by a different process, consult ***In re Thorpe,*** 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985).

The rejection is also made in the sense of ***In re Spada***, 911 F 2d 705, 709 15 USPQ 1655, 1658 (Fed. Cir. 1990), which settles that **when** the claimed compositions **are not novel**, they are not rendered patentable by recitation of properties, whether or **not** these properties are shown or suggested in prior art.

Since the USPTO does not have proper equipment to do the analytical test the burden is now shifted to the applicant to prove otherwise. ***In re Fitzgerald*** 619 F 2d 67, 70, 205 USPQ 594, 596 (CCPA 1980).

It is well settled that an applied reference may be relied upon for all that it would have reasonably suggested to one of the ordinary skill in the art, including not only preferred embodiments, but less preferred and even non-preferred. ***Merck &***

Co v. Biocraft Labs, Inc., 874 F 2d 804,807 10 USPQ 2nd 1843, 1846 (Fed. Cir.)

12. Applicants traverse the rejection of claims 1-5, 7-17 and 31 under 35 U.S.C. 35 U.S.C. 103(a) as being unpatentable as obvious over Sun et al. (U.S. Patent 6,124,391) in view of Le-Khac et al. (WO 96/30442) and the rejection of claims 18 and 19 under 35 U.S.C. 103(a) as being unpatentable as obvious over Sun et al. and Le-Khac et al. as applied to claims 1-5, 7-17 and 31 above and further in view of Beerse et al. (US 2002/0006886). Applicant's arguments filed December 18, 2006 have been fully considered but they are not persuasive.

13. Applicants contend that the '391 patent is directed to incorporating an anticaking and dedusting amount of an inorganic powder to SAP particles. The maximum amount of inorganic powder added to the SAP particles, as disclosed in the '391 patent, is 10 wt%. In contrast the present claims specifically recite minimum amount clay of 12%, by weight impart anticaking and dedusting properties to SAP particles (page 9, the last paragraph). The '391 patent contains no teaching or suggestion that would motivate a person skilled in the art to increase the amount of inorganic powder above the disclosed maximum limit of about 10%, by weight. In fact, persons skilled in the art would have had no incentive to increase the amount of inorganic powder above about 10 wt%, because the '391 patent teaches that dedusting is achieved at inorganic powder amounts well below 10 wt% (e.g., see '391 examples). Therefore, persons skilled in the art would consider using any amounts of clay above 10-wt% as being wasted (page 10, 1st paragraph).

14. Applicants contend that WO '442 does not overcome the deficiencies of the '391 patent. First, WO'442 discloses particles substantially different from the presently claimed particles, as discussed above, i.e., clay distributed throughout the particle and no surface crosslinking. Second, after reading the '391 patent, a person skilled in the art would not have been motivated to increase the amount of clay to greater than 10%, as discussed above. Although the type of particle disclosed in WO '442 may be able to incorporate up to 25% clay (because the clay is distributed throughout the particle), it does not correlate to the amount of clay can be present in the type of particle disclosed in the '391 patent. In fact, the '391 patent discourages such an increase in the amount of clay at the surfaces of the particles (page 11, 4th paragraph).

15. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.,* 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

16. It is further noted that "The motivation in the prior art to combine references does not have to be identical to that of the applicant to establish obviousness, i.e. it is not required for a finding of obviousness that motivation of the skilled artisan be the same as an applicant motivation", ***In re Kemps***, 97 F.3d 1427, 1430, 40 USPQ2d 1309, 1312 (Fed. Cir. 1996) (holding there is sufficient motivation to combine teachings of prior art to achieve claimed invention where one reference specifically refers to the other).

Therefore, it is well settled that for a finding of obviousness under § 103 the prior art need not disclose the same motivation as disclosed by an applicant.

17. It is noted that both references are analogous art because they are from the same field of endeavor concerning new particulate material compositions (of the SAP particles and the inorganic powder), which may be employed for any traditional use for which SAPs are employed. For instance, such uses include, but are not limited to, use in an absorbent article such as a sanitary article (i.e., diapers, incontinence garments, etc.) (US'391, col. 7, lines 49-53 and WO'442, page 1, lines 6-18).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate clay in the amount of up to 25 wt.% as taught by Le-Khac in Sun's superabsorbent polymers in order to improve gel strength and include lower percent extractables, to receive economic saving in the production of the polymeric composition, and further, there is little or no deleterious affect on other properties such as absorption and wicking (WO'442, page 13, lines 2-7, and Example 4, page 13, line 18 through page 14, line 7), and thus to arrive at the subject matter of instant claims 1, 2 and 31.

18. Furthermore, applicants maintain that the '886 publication does not overcome the deficiencies of the '391 patent and WO '442. The '886 publication merely discloses well known quaternary ammonium compounds (QACs). The QACs of the '886 publication are not incorporated into clay particles, but are added directly to "a water insoluble substrate comprising a nonwoven layer" (see paragraphs [0010], [0023] through [0051] and [0247]). A clay is not a nonwoven layer as disclosed in the '886 publication. The

'886 patent fails to teach or suggest any combination of a QAC and a clay to provide an organophilic clay as required in claims 18 and 19, and furthermore the '886 publication is not remotely directed to SAP particles (page 12, 1st paragraph).

19. The examiner further misunderstands the claimed invention *vis-à-vis* the publication by his statements in the first full paragraph of page 11 of the Office Action. The examiner's statement that it would have been obvious to "incorporate organophilic clay selected from tallow" into an SAP to obtain additional functional group linkages is totally incorrect. These hydroxyl and amino functionalities may be present in a composition of the '886 publication because the QAC is free, and is not bound to a clay. In an organophilic clay, the QAC is bound and is not available to provide any such functionalities. Further, if such functionalities were available, they may be detrimental and adversely affect the absorbency of the SAP particles (page 13, 1st paragraph).

20. It is noted that the limitations of claim 18 and 19 do not contain the above mentioned properties, such as "incorporated into clay particles", "bound to a clay", etc.

These properties are not described in the specification and can be considered as a new subject matter.

It is worth to mention that Beerse discloses that the term 'tallow' refers to an alkyl group derived from tallow fatty acids (usually hydrogenated tallow fatty acids), which generally have mixtures of alkyl chains in the C_{12} to C_{14} range. Examples of quaternary ammonium salts derived from these tallow sources include ditallow dimethyl ammonium chloride, ditallow dimethyl ammonium methyl sulfate, di(hydrogenated tallow) dimethyl ammonium chloride, di(hydrogenated tallow) dimethyl ammonium acetate, ditallow

dipropyl ammonium phosphate, ditallow dimethyl ammonium nitrate, tallow ammonium chloride, etc. (page 21, [0228]).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate organophilic clay selected from tallow derivatives as taught by Breese in Sun and Le-Khac's superabsorbent polymers in order to obtain a superabsorbent polymers with additional linkages, or hydroxyl, or amino group substituents (e.g., the alkyl groups can contain polyethylene glycol and polypropylene glycol moieties) (page 21, [0224]).

21. The Examiner has to repeat again that "The motivation in the prior art to combine references does not have to be identical to that of the applicant to establish obviousness, i.e. it is not required for a finding of obviousness that motivation of the skilled artisan be the same as an applicant motivation", ***In re Kemps***, 97 F.3d 1427, 1430, 40 USPQ2d 1309, 1312 (Fed. Cir. 1996) (holding there is sufficient motivation to combine teachings of prior art to achieve claimed invention where one reference specifically refers to the other). Therefore, it is well settled that for a finding of obviousness under § 103 the prior art need not disclose the same motivation as disclosed by an applicant.

22. In the light of the discussion above, the rejection of record has not been withdrawn. The rejection remains in force.

23. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Bernshteyn whose telephone number is 571-272-2411. The examiner can normally be reached on M-F 8-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached on 571-272-1114. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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